

Abstract

A damping device for use in industrial machinery and tools comprising a housing (102, 602) and a flange member (104, 604) arranged in the housing, wherein at least portions of the flange member apart from the center thereof are composed of an elastic material and inclined with respect to the axial direction or the radial direction of the rotational axis and the flange member is so designed that the peripheral face thereof is brought into contact with the inner wall of the housing. This device can generate a damping force which may be drastically changed depending on the operating directions and thus permits stable damping. In the direct acting type one, the flange member (104) is tapered on the corresponding both faces towards the periphery thereof, it never requires the formation of any space for allowing any deformation on the largely deformed side, the device can thus be miniaturized in the axial direction and permits the reduction of the weight thereof and it can operate even in response to motions having a fine amplitude to thus show excellent damping characteristics. In the rotary type one, the flange member (604) comprises an engaging member capable of being engaged with a shaft body (603) and is provided with projected or convex portions (604a) on its outer periphery. The projected portions are inclined towards the radial direction of the rotating shaft to thus efficiently show their excellent differential rotation-damping characteristics and the damping characteristics may arbitrarily be controlled. These damping devices can be used as dampers for suspensions of bicycles, rotary dampers applied to chairs and dampers for opening and closing doors.